REMARKS / ARGUMENTS

I. General Remarks

Applicants respectfully request that the above amendments be entered and further request reconsideration of the application in view of the amendments and the remarks contained herein.

II. Disposition of the Claims

At the time of the office action, claims 1-24 were pending in this application. Claims 1-24 stand rejected.

Applicants have cancelled claims 7, 14, 19, and 24 herein, and Applicants have added new claims 25-28 herein. Claims 1, 4, 8, 11, 15, 17, 20, nd 22 are amended herein. Applicants respectfully submit that these amendments add no new matter to the application and are supported by the specification as filed. All the above amendments are made in a good faith effort to advance the prosecution on the merits of this case.

III. Remarks Regarding Rejection of Claims Under 35 U.S.C. § 102(b) *Montgomery* Does Not Teach Each and Every Limitation of Claims 1, 6-8, and 13

Claims 1, 6-8, 13, and 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,024,171 issued to Montgomery *et al.* (hereinafter "*Montgomery*"). Applicants respectfully traverse on the basis of the amended claims, because *Montgomery* does not teach or suggest every limitation of amended claims 1, 6-8, 13, and 14 as required to anticipate the claims under 35 U.S.C. § 102(b).

In particular, *Montgomery* fails to teach the step of "performing an additional fracturing subsequent to the step of fracturing the coal seam using the hydrajetting tool" as recited in nded independent claims 1 and 8. Rather than teaching performing an additional fracturing subsequent to the step of fracturing the coal seam using the hydrajetting tool, *Montgomery* provides as follows:

> [W]ellbores can be stimulated in a solid carbonaceous subterranean formation by positioning a hydrajet in an uncased portion of the wellbore penetrating the formation; perforating the formation with the hydrajet; and producing carbonaceous fluids and particulates from the formation through the wellbore and, thereby, forming a cavity in the formation surrounding the wellbore.

Montgomery, col 2, ll. 36-42. Yet, nowhere does *Montgomery* teach or suggest the step of performing an additional fracturing subsequent to the step of fracturing the coal seam using the

hydrajetting tool. Accordingly, *Montgomery* does not disclose each and every limitation of independent claims 1 and 8.

Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(b) rejection as to independent claims 1 and 8 and correspondingly as to dependent claims 6-8, 13 and 14.

IV. Remarks Regarding Rejection of Claims Under 35 U.S.C. § 103(a)

A. *Montgomery* in View of *Surjaatmadja* Does Not Teach Each and Every Limitation of Claims 2, 3, 9, and 10

Claims 2, 3, 9, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent No. 5,765,642 issued to Surjaatmadja. (hereinafter "*Surjaatmadja*"). Applicants respectfully traverse on the basis of the amended claims.

To form a basis for a § 103(a) rejection, the suggested combination of prior art references must teach or suggest each and every limitation in the claim. MANUAL OF PATENT EXAMINING PROCEDURE § 2142 (2004). As discussed in Section III above, *Montgomery* does not teach or suggest "performing an additional fracturing subsequent to the step of fracturing the coal seam using the hydrajetting tool" as recited in amended independent claims 1 and 9 (emphasis added). *Surjaatmadja* also fails to teach or suggest this recited limitation. Thus, Applicants respectfully assert that the combination of *Montgomery* and *Surjaatmadja* fails to form a valid basis for a prima facie case of obviousness as to amended independent claims 1 and 8 correspondingly, as to dependents claims 2, 3, 9, and 10.

Fracturing of coal seams pose unique challenges, because coal seams are typically unusually frangible and brittle as compared to other types of subterranean formations. Coal seam perforations, which are scattered along a varied depth of the well bore, create multiple and random entry points for a fracture fluid to flow into the subterranean formation. This random flowpath coupled with an already tortuous network of pathways within the coal seam formation may result in a complex fracture, which is typically not aligned with the plane of maximum stress and lacks a single, dominate fracture. Thus, an inefficient and often sometimes ineffectual pathway for the gas to reach the well bore is created.

Applicants' claimed methods address these problems by preceding the fracturing step with the step of "fracturing the coal seam using a hydrajetting tool at a pressure less than a

fracture pressure of the subterranean formation to produce at least one pair of opposed bi-wing fractures formed by erosion of the subterranean formation substantially along a plane of maximum stress." *See e.g.*, Applicants' claims 1 and 8. The production of the bi-wing fractures created through erosion using a hydrajetting tool has the advantage of lowering the fracture initiation pressure and the fracture gradient of the subterranean formation for the *subsequent* fracturing step. By lowering the necessary fracture initiation pressure and the fracture gradient, lower treating pressures may be used in the subsequent fracturing step. This lower fracture gradient and lower treating pressure results in fractures that are less tortuous and that are more aligned along the plane of maximum stress, resulting in a more efficient fracturing of the coal seam.

Thus, the specific combination and sequence of elements recited in Applicants' claims is not taught by the prior art, nor would such a combination have been obvious to a person of ordinary skill in the art at the time of the filing of this patent application. Accordingly, Applicants respectfully request the withdrawal of the 35 U.S.C. § 103(a) rejection as to independent claims 1 and 8 and correspondingly, as to their dependent claims 2, 3, 9, and 10.

B. *Montgomery* in View of *Zupanick* Does Not Teach Each and Every Limitation of Claims 4, 5, 11, And 12

Claims 4, 5, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Montgomery* in view of U.S. Patent No. 6,280,000 issued to Zupanick. (hereinafter "*Zupanick*"). Applicants respectfully traverse on the basis of the amended claims.

To form a basis for a § 103(a) rejection, the suggested combination of prior art references must teach or suggest each and every limitation in the claim. MANUAL OF PATENT EXAMINING PROCEDURE § 2142 (2004). As discussed in Section III above, *Montgomery* does not teach or suggest "performing an additional fracturing subsequent to the step of fracturing the coal seam using the hydrajetting tool" as recited in claims 1 and 8. Nor does *Zupanick* teach or suggest this limitation.

Therefore, the combination of *Montgomery* and *Surjaatmadja* fail to form a valid basis for a prima facie case of obviousness as to amended independent claims 1 and 8 and correspondingly, as to dependent claims 4, 5, 11, and 12. Accordingly, Applicants respectfully request the withdrawal of these rejections.

C. *Montgomery* in View of *Surjaatmadja* in View of *Zupanick* Does Not Teach Each and Every Limitation of Claims 15-24.

Claims 15-24 stand rejected under 35 U.S.C. § 103 as being unpatentable over *Montgomery* in view of *Surjaatmadja* in view of *Zupanick*. Applicants respectfully disagree on the basis of the amended claims.

A prima facie case of obviousness requires a showing that all claim limitations be taught or suggested by the prior art. M.P.E.P. § 2143.03. Applicants respectfully submit that a prima facie case of obviousness has not been established by the cited references, because the cited references fail to teach all of the limitations of amended independent claims 15 and 20.

In particular, as explained above in Section IV.A, neither *Montgomery* nor *Surjaatmadja* teaches "performing an additional fracturing subsequent to the step of fracturing the coal seam using the hydrajetting tool," as recited in amended independent claims 15 and 20. Moreover, the addition of *Zupanick* fails to supply the limitations missing from *Montgomery* and *Surjaatmadja*. As such, a prima facie case has not been established by the combination of *Montgomery*, *Surjaatmadja,* and *Zupanick*, because these cited references fail to teach each and every limitation of Applicants' independent claims 15 and 20. Therefore, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection as to independent claims 15 and 20 and correspondingly, as to dependent claims 16-18 and 21-23.

V. Remarks Regarding New Claims 25-28

Although no rejection has been made to new claims 25-28, to advance prosecution of these claims, Applicants observe that, as explained above, none of the cited prior art references supply all of the recitations of Applicants' claims 1, 8, 15, and 20, from which claims 25-28 depend. Thus, Applicants respectfully request allowance of these claims.

VI. No Waiver

All of Applicants' arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements, such as, for example, any statements relating to what would be obvious to

a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the anticipation and obviousness rejections.

SUMMARY

In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

The Commissioner is hereby authorized to debit the Deposit Account of Halliburton Energy Services, Inc., No. 08-0300 in the amount of $790.00 for the RCE fee under 37 C.F.R. § 1.117(e). Applicants believe that no additional fees are due in association with the filing of this Response. In particular, since the number of canceled claims equals the number of added claims, the total number of claims has not changed, nor has the number of independent claims changed. Thus, no additional claims fee is believed to be due. However, should the Commissioner deem that any additional fees are due, including any fees for extensions of time, the Commissioner is authorized to debit the Deposit Account of Halliburton Energy Services, Inc., No. 08-0300, for any underpayment of fees that may be due in association with this filing.

Respectfully submitted,

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Robert A. Kent
Registration No. 28,626
Halliburton Energy Services, Inc.
2600 South Second Street
P.O. Drawer 1431
Duncan, OK 73536-0440
Telephone: 580-251-3125